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7 METHOD AND SYSTEM FOR GENERATING A FAMILY TREE

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9 Inventors:

10 Michael Edward Ripps

11 Randall Robert Ripps

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13 Attorney:

14 Michael J. D'Amelio

15 Reg. No. 36,775

FIELD OF THE INVENTION

The disclosed invention relates to a method and system for generating a family tree. More specifically, the disclosed invention relates to a method and system for generating a graphical output display of a family tree in conjunction with a chronological timeline. Displayed information may include names, dates, pictures of family members, and pictures of significant people or events that have taken place at specific dates along the chronological time line.

BACKGROUND OF THE INVENTION

Genealogy, or the investigation of family history and ancestry, has become of significant interest to people over recent years. Many people have gone to great lengths to collect pedigree information, including names, birth and death dates, marriage information, emigration information, and the like, on their ancestry as far back as information sources will allow. Traditionally, this information may have been sketched out or compiled by hand in chart-form or in a family journal. In recent years however, computers have been used to a greater degree to compile, electronically manipulate, and display such information.

For example, U.S. Patent No. 6,416,325 B2 to Gross discloses a genealogical analysis tool, namely a computer and computer program to generate a family tree. The thrust of this reference is to overcome the traditional two-dimensional nature of a family tree chart by providing a simulated three-dimensional display of family relationships via a computer monitor. The display of Gross can be rotated on the screen about any of three axes to disclose and clarify family relationships for the user. The information displayed consists of names, dates, and lines representing family relationships, which is typical of any prior art family tree display. Individuals may be targeted, and additional information on an individual may be retrieved, as a secondary operation.

Another example is U.S. Patent No. 6,570, 567 B1 to Eaton, hereby incorporated by reference herein, which discloses a system and method for using a graphical interface for the presentation of genealogical information. This reference

1   shows a family tree system that may be networked to a variety of users via remote

2   terminals for input, use, and display purposes. The output is generally in traditional

3   form, using names, dates, and lines representing relationships among family

4   members, although specific individuals and/or relationships having certain

5   characteristics may be emphasized. As with Gross, additional information on an

6   individual may be retrieved via secondary operation. The useful output is primarily

7   limited to computer monitor display.

8   Thus there is a need in this area of innovation for an advancement which

9   overcomes the display of basic, mundane charted information, and retrieval and

10   manipulation of such basic information, on a computer resulting in a traditional

11   family tree output display. There is a need for a colorful, graphical family tree

12   output which results in an aesthetically pleasing display, including images,

13   photographs of family members, colorful graphics, and the like, all displayed in

14   conjunction with a chronological timeline the dates of which are synchronized with

15   dates on the family tree, and which includes imagery regarding significant events

16   and people throughout the historical period of the timeline. There is a need for

17   such hardcopy output that will be sought after and displayed by family members for

18   both informative and aesthetic reasons.

1   SUMMARY OF THE INVENTION

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3   These and other objects of the present invention will become apparent from a

4 review of the drawings and the following description of the preferred embodiments.

5 The invention disclosed herein is a computer generated family tree output,

6 describing a multigenerational family tree having significant family dates, each

7 date associated with a person included in the family tree. The invention output also

8 describes a chronological timeline including incrementally passing successive

9 dates. The previously recited family dates are shown in synchronicity with the

10 dates on the timeline.

11   Displayed is information associated with specific persons included in the

12 family tree. This information includes significant dates associated with each

13 specific person. Also displayed is a chronological timeline including gradations

14 indicating a uniform incremental passage of successive dates on the timeline. The

15 significant dates are displayed in synchronicity with corresponding successive dates

16 on the timeline.

17   Included on the family tree output are a plurality of lifelines, each lifeline

18 corresponding to a person included in the family tree. A marriage between two

19 persons is denoted by merging a portion of their respective lifelines from a

20 marriage beginning date to a marriage ending date. Unknown date indicia, also

21 referred to as an unknown date gradient, indicates a date on a lifeline that is

22 unknown. Common birthday indicia indicates persons with the same birth month

1 and day. Precession of the equinox indicia is displayed in appropriate locations on

2 the timeline.

3 The computer generated family tree output includes displayed data for persons

4 included in the family tree, specifically graphical images of the persons, which may

5 be displayed in contact with a corresponding lifeline. The chronological timeline

6 may include graphical images displayed at specific dates on the timeline, wherein

7 the graphical images show significant persons, places, or events associated with the

8 specific dates.

9 Emigration indicia associated with a specific person on the family tree may be

10 included. The chronological timeline is synchronized with the family tree so that

11 the emigration indicia location on the family tree corresponds with a specific date

12 on the chronological timeline thereby revealing a date of emigration. The output

13 may include at least two lifelines displayed in drop-shadow form, which may be

14 sibling lifelines.

15 Also disclosed is a method for computer generation of a family tree output,

16 including the steps of electronically generating a chronological timeline

17 encompassing a predetermined period of time, inputting data associated with

18 persons to be included in the family tree, electronically generating a family tree

19 based on the data, and displaying the family tree in conjunction with the

20 chronological timeline.

21 Included in the method may be the step of electronically generating a plurality

22 of lifelines, each lifeline corresponding to a person included in the family tree.

23 Also included may be the step of merging a portion of two lifelines to denote a

1 marriage between two persons associated with the lifelines. The step of

2 electronically generating unknown date indicia indicating a date on a lifeline that is

3 unknown may be included, as may be the step of electronically generating common

4 birthday indicia indicating persons with the same birth month and day, or the step

5 of electronically generating equinox precession indicia to be displayed on the

6 timeline.

7 Additionally disclosed is a method for computer generation of a family tree

8 output comprising the steps of inputting data associated with a plurality of persons

9 to be included in the family tree, inputting a plurality of graphical images each

10 image associated with a specific person to be included in the family tree, and

11 electronically generating a family tree display based on the data and graphical

12 images. Included may be the steps of electronically generating a chronological

13 timeline comprising gradation dates indicating a uniform incremental passage of

14 time, providing graphical images that correspond with specific gradation dates,

15 associating predetermined graphical images with corresponding gradation dates,

16 and displaying the timeline with the associated images.

17 The method may include the steps of inputting data on a plurality of persons to

18 be included in the family tree comprising emigration date data having a

19 corresponding emigrated person and a corresponding gradation date on the

20 timeline, generating emigration indicia based on the emigration data, associating

21 the emigration indicia with the corresponding emigrated person, and displaying the

22 emigration indicia on the family tree in synchronicity with the corresponding

23 gradation date on the timeline.

1   Finally, the method may include the steps of inputting data on at least two

2   persons to be included in the family tree output, generating a lifeline for each

3   person based on the input data, and displaying the lifelines in drop-shadow form.

4   As used herein, the terms "output" and "display" may be used interchangeably

5   as meaning the product that results from the present invention, as based on the

6   input data, whether in electronic form (i.e., as viewed on a computer monitor

7   screen) or in hardcopy form. The term "common birthday" refers to circumstances

8   in which two or more persons have the same birth month and day. The term

9   "precession of the equinox" refers to the event of a specific astronomical

10   constellation of stars appearing at the horizon on the morning of the spring equinox

11   for a period of about two thousand years, after which the immediately preceding

12   astronomical constellation, as shown on a zodiac chart, appears at that location.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1A depicts a first data input screen of the present invention.

FIG. 1B depicts an exploded view of a portion of a border shown in FIG. 1A.

FIG. 2 depicts a second data input screen of the present invention.

FIG. 3 depicts a third data input screen of the present invention with a first set of data being input into the computer program.

FIG. 4 depicts the data input screen of FIG. 3 with a second set of data being input into the computer program.

FIG. 5A depicts a fourth data input screen of the present invention.

FIG. 5B depicts an exploded view of the family tree shown in FIG. 5A.

FIG. 6A depicts an embodiment of a family tree showing alternative details.

FIG. 6B depicts a portion of the family tree of FIG. 6A, showing alternative details.

FIGS. 7A, 7B, and 7C depict unknown date gradients of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is based on the use of computer hardware known in the art in conjunction with a novel computer software program that, along with input data, produces a novel form of family tree output. A vast array of available hardware may be used in accordance with the present invention, not all of which shall be discussed herein as it is generally known to those skilled in the art, and the hardware options for successful practice of the present invention will be readily apparent to those skilled in the art. The focus herein shall be on minimum hardware requirements which may include a desktop or laptop computer with at least 512 megabytes of RAM and at least 20 gigabytes of electronic storage space. These requirements anticipate storage of both the novel software supplied to the user and any electronic image data that the user might add to the program for customization purposes.

A scanner is also desirable, which is able to scan at least 500 dots per inch, and preferably is capable of scanning both opaque and transparent images. To generate aesthetically pleasing hardcopy output of a quality that may be put on display, the use of a 24 inch wide roll feed color printer is highly desirable. Availability on the computer system of additional software, such as Adobe Illustrator® or some equivalent graphics program, Adobe Photoshop® or some equivalent photo sizing and cropping program, and the like is also highly desirable. Both of these systems are offered by Adobe Systems, Inc. of San Jose, California. Particular information can be found in the Adobe Photoshop® 7.0 User Guide, © 2002 by Adobe

1   Systems, Inc. and the Adobe Illustrator® 10 User Guide, © 2001 by Adobe

2   Systems, Inc., both hereby incorporated by reference herein. Quark by Quark

3   Technologies, and Corel Paintbox and Corel Drawing software, both by Corel, are

4   other currently available options.

5   As used herein, the terms "click", "clicking", and "double clicking" refer to the

6   standard function of a mouse and electronic pointer on a monitor screen, which are

7   used to take specific actions or accomplish given functions of a computer program.

8   Referring now to the Figures, use of the present invention shall be described

9   beginning with use of the data input screens. Once the present software is loaded

10   into a computer system, an icon is made available on the screen as is customary

11   with computer programs. Double clicking the icon starts the program and displays

12   the first input screen, shown in Fig. 1A. Fig. 1A is referred to as the "Document

13   Setup Screen" and is used to generate the chronological timeline and overall chart

14   upon which the family tree will be displayed. This screen displays a panel 10

15   having borders 12. Begin year data is input into space 14; the exemplary data in

16   Fig. 1A shows a chart begin year of 1790. End year data is input into space 16; the

17   exemplary data in Fig. 1A shows a chart end year of 2020. After input of begin

18   year and end year data, the user clicks the place key 18 to apply this data to the

19   program.

20   The user then has control of the size of the hardcopy output of the finished

21   chart. Desired overall chart width is input into space 20, exemplified as 60 inches

22   in Fig. 1A. Overall chart height is input into space 22, exemplified as 24 inches in

23   Fig. 1A. Chart height is directly dependent upon the capacity of the printer being

1 used. The scale of the chart is then entered into space 24, exemplified as 2 inches

2 per decade in Fig. 1A. The user then clicks the place key 26 to apply this data to

3 the program. The result is the timeline shown as panel 10 in Fig. 1A, with the

4 years from 1790 to 2020 set out in 10 year increments in borders 12.

5 In the event of a conflict between chart width and scale, the program may be

6 arranged so that one of these data entries takes precedence and overrides the other.

7 For example, the overall time span shown in Fig. 1A from 1790 to 2020 is 230

8 years. If the scale is input as 1 inch per year, the width requirement for display of

9 the entire chart output would be 230 inches. This is much more than the desired

10 width input of 60 inches. The program can be set up so that scale takes precedence

11 over width, or width takes precedence over scale, whichever the user desires.

12 A background color or background image may be selected for the panel 10. If

13 a background color is desired, the user clicks on the words "select background

14 color" 28 which produces a color palette (not shown). The user selects, or clicks

15 on, the desired background color from the color palette then clicks on place key 30

16 to confirm the selected background color and apply it to panel 10. If a background

17 image is desired, the user clicks on "select background image" 32 to display a

18 plurality of image options for the background image. The desired background

19 image may then be selected, or clicked, then the user may click on the place key 30

20 to confirm the selected background image and apply it to panel 10. Background

21 images provided with the computer program may be, for example, a variety of

22 different cloud formations or the like. Users may also scan in custom images for

23 use as background images.

1   For the sake of clarity of explanation, no background color or image is shown

2   in Fig. 1A. Years are displayed in ten year increments in borders 12 as shown,

3   along with grid lines 34 representing decade gradations. Note that century grid

4   lines 36, displayed at the century marks, are shown in bold. When appropriate,

5   symbols 38 and 40 representing the precession of the equinox may be displayed at

6   the change of millennia. This is more clearly shown in Fig. 1B.

7   Those who are familiar with astrology and the zodiac symbols will know that

8   the year 2000 marks the beginning of the Age of Aquarius, which was preceded by

9   the Age of Pisces. Thus the Pisces symbol 38 shown prior to the year 2000, and the

10   Aquarius symbol 40 shown after the year 2000 on the chart. This change to a new

11   zodiac sign occurs about every 2000 years. The specific constellation in question

12   appears at the horizon in the morning of the spring equinox. Inclusion of this data

13   on panel 10 provides an additional item of interest to those who are inclined toward

14   astrological information.

15   Once the chart is configured as desired by the user, the user clicks on the "next

16   page" symbol 42 shown in Fig. 1A. This results in display of the next input data

17   screen which is shown in Fig. 2.

18   Referring now to the data input screen of Fig. 2, there is shown name input

19   spaces 44. Although there are only ten name input spaces 44 shown, clicking the

20   "next level" symbol 46 brings up additional data input screens for the addition of

21   more names and their corresponding information. It is anticipated that some family

22   trees may have dozens or hundreds of members, and therefore several of these

23   name input screens may need to be used to complete an entire family tree.

1   Family names may be put into name input spaces 44 in any order, so long as

2   the number 47 corresponding with a given name input space is identified with that

3   person's input data. For example, the user may click on input space 44 labeled "1"

4   to activate it and input the name "John Smith" as shown. The user is then able to

5   input previously accumulated data associated with "John Smith" in the spaces to

6   the right of this name. John Smith's birth date is input into space 48, his marriage

7   date is input into space 50, and his death date is input into space 52. If he was

8   divorced, his divorce date would be input into space 54. If he was married more

9   than once, the number of the marriage in question would be put into box 56, and

10   the date of that marriage would be input into space 58. For example, if we were

11   inputting data for his second marriage, a "2" would be input into box 56. Any

12   input spaces that do not apply to the person in question would be left blank. At this

13   point, the "place" key 60 would be clicked to apply the input data to the program.

14   Then the name input space labeled "2" would be clicked to activate it, and the

15   process would be repeated for the next family member.

16   As stated above, once ten names and their associated data are input into this

17   screen, the "next level" symbol 46 would be clicked to bring up a new input screen

18   for additional names. If the "highlight shared birthdays" box 62 is checked, as

19   shown, any family members with the same birth month and day would show up on

20   the family tree with a common birthday indicia or symbol, such as an asterisk or

21   colored circle next to their respective names or birth dates. For example John

22   Smith and John Black have the same birth month and day of January 2. Their

23   birthdates might show up on the family tree with red circles next to them. If two

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1   other members of the family have another common birth month and day, their birth

2   dates might show up with a green circle next to them. Any shape, symbol, or

3   device may be used, with or without color coding, so long as the intended purpose

4   is achieved.

5   For sake of explanation, the data for each name listed in spaces 44 is shown in

6   Fig. 2. In practice, once the data is input for a specific name and the "place" key 60

7   is clicked, that person's data is applied to the program and disappears from the

8   input boxes. The process is then repeated for another name. The "preceding page"

9   symbol 64 may be clicked to take the user back to the Document Set Up screen of

10 Fig. 1A, or the "next page" symbol 66 may be clicked to take the user to the data

11 input screen of Fig. 3 once all the family member names and their associated data

12 have been input.

13   Referring now to Fig. 3, a data input screen which focuses on family

14 relationships and other secondary data is shown. The names that were previously

15 input into the input data screen of Fig. 2 now show up in spaces 68 with their

16 corresponding numbers 69. For example, "John Smith" is again shown in space 68

17 labeled with the number "1". What is critical is that all the input data for "John

18 Smith" be associated with the space labeled number "1". This is accomplished by

19 clicking on this space which activates it, or highlights it as shown, for the input of

20 data.

21   With space number "1" highlighted, data associated with "John Smith" may

22 now be input. Assuming we do not have information on John Smith's parents, data

23 input space 70 would be left blank. If John Smith is the father of Clark Smith

1   (whose name is in space 68 labeled number "3"), the numbers "001" and "003"

2   would be input into space 72 as shown to create this family relationship on the

3   family tree. If John Smith is the husband of Mary Jones (whose name is in space

4   68 labeled number "2"), the numbers "001" and "002" would be input into space 74

5   as shown to create this family relationship on the family tree. Because there is no

6   information to suggested that John Smith has a brother or was remarried, spaces 76

7   and 78 would be left blank. Input spaces 80 through 88 would be used if the family

8   member in question was female. After this data is input, the "place" key 90 is

9   clicked to apply the data to the program.

10   If John Smith was an immigrant, his number "001" would be input into space

11   92 and his emigration year, "1880" in the example, would be input into space 94.

12   "Place" key 96 would then be clicked to apply this data to the program. The

13   "search flag file" symbol 97 would then be clicked to bring up a listing of countries

14   and their flags (not shown). If, for example, John Smith emigrated from Russia to

15   the United States in 1880, the number associated with the Russian flag, in this case

16   "5", would be input into space 98, and the number associated with the United

17   States flag, in this case "6", would be input into space 100. "Place" key 102 is then

18   clicked to apply this data to the program. The resultant output on the family tree

19   will be described in detail below.

20   Each family member is depicted on the family tree as a lifeline, or a

21   rectangular bar, as will be described in detail below. Inputting John Smith's

22   number "001" into space 104 allows the selection of a color and other graphics for

23   his lifeline. Clicking on box 106 brings up a color palette (not shown) which

1   allows the selection of a color for John Smith's lifeline. Clicking on box 108

2   allows the user to choose to show John Smith's lifeline outlined in bold which may

3   be desirable to highlight certain persons or certain relationships. If, for example,

4   the user desires that all the family members which make up the patriarchal lineage

5   should be emphasized on the family tree, box 108 may be clicked to outline John

6   Smith's lifeline in bold, as would all the lifelines associated with his descendant

7   males. Clicking the "place" key 110 applies this data to the program. Note that

8   boxes 106 and 108 are shown overlapped in Fig. 3, as this is how they appear in

9   Adobe programs.

10   John Smith's lifeline may also be shown in "drop shadow" form, or in other

11   words with a three dimensional effect as will be further described in detail below.

12   If this is desired, his number "001" is input into space 112 and the "place" key 114

13   is clicked to apply this data to the program. Also, photographs of John Smith at

14   various points in his life may be displayed on the family tree at appropriate points

15   on his lifeline. If this is desired, his number "001" is input into spaces 116 and

16   118, the desired picture year is input into space 120, in this example 1918, and the

17   "search family album" symbol 122 is clicked. This brings up a selection of

18   previously input images of John Smith for the year 1918, which may be displayed

19   with captions, including for example name and date. The user may then select an

20   image, then click the "place" key 124 to apply the image to the program. The

21   image will be shown at a point on John Smith's lifeline associated with the year

22   1918, as will be described in more detail below. The user has the discretion,

23   however, to move images around on the final family tree to his or her liking.

1   Additionally, the user may click the "search family album" symbol 122 and browse

2   through the offered images and select desired images at will for placement on the

3   family tree.

4   The "next level" symbol 126 allows similar data to be input for additional

5   names on additional pages of this input screen. The "preceding page" symbol 128

6   takes the user back to the input screen of Fig. 2. The "next page" symbol 130 takes

7   the user to the input screen of Fig. 5. However, we shall first consider the data

8   input procedure just described for another family member by reference to Fig. 4.

9   In Fig. 4, note that the name "Clark Smith" in name input space 68 labeled

10   with the number "3" is highlighted. This activates data input for Clark Smith. His

11   associated number "003" is input into spaces 70, 72, 74, and 78 as shown and as

12   previously described above. Note that the information provides that he is the son of

13   John Smith, the father of Michael Smith, the husband of Betty White, and the

14   brother of Jane Smith. If he is also the father of Susan Smith in space 68 labeled

15   with the number "6", the program will use simple logic to determine this fact if

16   Susan Smith is input into the program as the daughter of Betty White and born

17   during Betty White's marriage to Clark Smith. It will also determine this if Susan

18   Smith is input as the sister of Michael Smith who was previously identified as

19   Clark Smith's son, so long as Susan Smith was born during the marriage of Betty

20   White and Clark Smith. In other words, the program is capable of taking data

21   associated with a variety of family members and using simple logic to extrapolate

22   family relationships that have not been directly identified by direct data input.

1   Consider an additional example in simple logic form. A family consists of

2   members A, B, C, D, E, F & G. If B is identified as the wife of A on A's data input

3   screen, and C is identified as the son of A on A's data input screen, and D is

4   identified as the son of B on B's data input screen, and E is identified as the sister

5   of C on C's data input screen, and F is identified as the brother of D on D's data

6   input screen, and G is identified as the sister of E on E's data input screen, and all

7   the children were born during the marriage of A and B, then the program will

8   extrapolate these relationships and recognize this as a nuclear family and display it

9   as such via lifelines, and showing appropriate birth dates, death dates, marriage

10   dates, etc. as will be described in further detail below.

11   Data input for lifeline color and outline of the lifeline in bold, drop shadow

12   function, and selection of images works as described in the example above. After

13   this data is input for all family members named in the program, the "next page"

14   symbol 130 is clicked to reach the data input screen of Fig. 5A.

15   Referring now to Fig. 5A, this data input screen displays the previously

16   constructed timeline chart with the fully constructed family tree, which is shown in

17   greater detail in Fig. 5B. This data input screen allows additional images, in the

18   form of historical photographs and artworks, to be added to the program output.

19   The user may view a selection of images for a specific historical period of time by

20   inputting a beginning year into space 132, the year 1870 being shown in the

21   example, and an ending year into space 134, the year 1880 being shown in the

22   example. The user may then click on any one of the listed countries, then by

23   clicking on the "archive" key 136 a selection of images for the selected time period

1 and pertaining to the selected country will be brought up on the screen. This

2 selection of images may be displayed with captions, including for example names,

3 dates, places, etc. The user may then select an image and place it on the chart in

4 the desired location.

5 It should be noted that the listing of countries here is exemplary, and many

6 more countries would be added to the program and available on this data input

7 screen or on additional pages of this screen which would be accessible through

8 some sort of "next level" icon, similar to what was described above in conjunction

9 with Figs. 2, 3, and 4. Also, the national flags could accompany country names as

10 small thumbnail images, either just for reference or as activation icons of some sort.

11 For example, if the user wants to put a picture of the Brooklyn Bridge on the

12 timeline image ribbon 138 at about the year of its construction, the user would

13 input the exemplary data, highlite the United States (as shown), select the

14 appropriate image from those that are made available, and that image would be

15 placed at the appropriate point on ribbon 138, herein shown as image 140. A check

16 mark placed in box 142 allows a selection of regional tree images, or other country-

17 related symbols or pictures, to be brought up when "archive" key 136 is clicked.

18 Such images may be placed at various locations on the chart to indicate countries of

19 significance of the family at that stage in history. For example, image 144

20 represents birch trees which are associated with Russia. If the family originated in

21 Russia, this would be an appropriate picture to depict at the beginning of the family

22 tree.

1   With specific reference to image 144 in Fig. 5A, a particularly aesthetically

2   pleasing effect may be provided by beginning the first lifeline in the family tree

3   (i.e., the lifeline of the oldest ancestor displayed on the tree) with such an image.

4   The image 144 may be incorporated into the beginning of this person's lifeline, and

5   the image may gradually blend with and be shaded into the color of the lifeline.

6   The lifeline would be the same height as the image, and would stem from the image

7   using a color gradient feature of the present invention, as discussed in more detail

8   below. An example of such a gradient tool is provided in the Adobe software via

9   an opacity mask function.

10   Additionally, a selection of family portraits and group pictures may be made

11   available to use at various locations on the chart, particularly to fill in blank space

12   on the chart. Although the program will display images at an appropriate point on

13   ribbon 138 corresponding to an image date, the user always has the discretion to

14   move images around on the chart via software capability. It is anticipated that a

15   plurality of images would be shown on ribbon 138 for historical perspective, as

16   would a plurality of family photos be shown on and near the lifelines of the family

17   tree. Such output is particularly aesthetically appealing, especially when the output

18   is in full color.

19   We also anticipate that any image on the family tree output, when displayed on

20   a monitor screen, may be activated to display further data, such as historical news,

21   archived information, immigration data, etc. Such activation may also display a

22   data stream in the form of video and/or audio. For example, an image of a family

23   member may serve as a link to a digitized clip of a home video of that person that

1   has been stored into the program. The image, when double clicked, would call up

2   and begin the data stream which would show up on the monitor as a motion picture,

3   with or without audio. As understood by those skilled in the art, such a function

4   would be limited to the output display on a monitor screen.

5   As well, graphic means for distinguishing among various family relationships,

6   such as cousins, second cousins, step-brothers and sisters, adoptive relationships,

7   etc. may be supplied, as may a morphing visual stream of the growth and aging of

8   any individual on the family tree. It is also possible to provide for the program to

9   gradually unfold a completed family tree on a computer monitor, from beginning to

10   end, so that the user can watch the generations and lifelines unfold through the

11   years, at a rate of perhaps 100 years in 4 or 5 minutes time.

12   Also, the program may provide for a system by which all images, whether

13   provided with the program or subsequently input into the program by the user, are

14   associated with some means of identification, for example a number and perhaps

15   also an identifying title, the name of a person in the image, the image year, and

16   similar information. This would be combined with means to allow the user to print

17   out a list of all image numbers with associated titles, or other information, as an

18   index of the image archives.

19   Clicking the "preceding page" symbol 146 takes the user back to the input data

20   screen of Fig. 4, and clicking the "next page" symbol 148 takes the user to a screen

21   that displays the finished chart complete with family tree, timeline, family images,

22   and historical images, which is now ready for print-out in hard copy form. The

1   family tree shown in Fig. 5A warrants additional discussion, and an exploded view

2   of the family tree is shown in Fig. 5B for clarity of detail.

3   As shown in Fig. 5B, each person is depicted as a lifeline 150, having a left

4   end 152 which corresponds to a birth date. Note that the birth date of any given

5   lifeline 150 is synchronized with the appropriate date on the timeline chart.

6   Regarding deceased persons, the right end 154 corresponds to a death date. Note

7   that the death date of any given lifeline 150 is synchronized with the appropriate

8   date on the timeline chart. In fact, all events shown on lifelines that have a date

9   associated with them are in synchronicity with dates on the timeline chart. The

10   photograph of John Smith 156 was taken in 1918, thus its location on John Smith's

11   lifeline with respect to the timeline chart. It is anticipated that many, many more

12   images of persons on the family tree would be displayed than are shown in the

13   simple example of Fig. 5B.

14   Marriage is denoted by the merging of two lifelines from the date of the

15   marriage to either the death date of the first spouse to die or the date of separation.

16   The marriage between John Smith and Mary Jones is shown as a merging of their

17   respective lifelines at a point 158 corresponding to the year 1890 on the timeline

18   chart. Their marriage ended when John Smith died in 1945, as shown by right end

19   154 of John Smith's lifeline. Note that John Black's marriage ended in 1970 when

20   he and Martha Gray were divorced, as depicted by the de-merging of their lifelines

21   at point 160.

22   Family members who are still living at the time of creation of the family tree

23   are depicted in this example by an open right end 162 on their lifelines. Asterisks

1   164a and 164b denote common birth month and day between individuals, in this

2   case between John Smith and John Black. Emigration indicia 166 denotes a person

3   who emigrated from one country to another. In this example, the Russian flag on

4   the left indicates the country emigrated from, and the United States flag on the right

5   indicates the country emigrated to. The flags are centered on the emigration date,

6   which is the year 1890 in this example. Note also that information 168 (here

7   associated with Mary Black's lifeline) may be placed outside of a person's lifeline

8   when space within a lifeline is restricted. Again, the user has discretion and may

9   edit the placement of information and images on the final family tree output.

10   The birthdates of children of a marriage shown in the family tree are associated

11   with vertical lines 170. These vertical lines stem from the area in which a couple's

12   lifelines have merged to show a marriage relationship, and extend to the child's

13   lifeline at a left edge of the lifeline indicating the year of the child's birth. As

14   stated previously, family photographs 172 may be inserted on the chart in various

15   locations for aesthetic and informational appeal.

16   Referring now to Fig. 6A, additional detail of the present invention shall be

17   discussed. Shown in Fig. 6A are the lifeline 174 of a husband, lifeline 176 of

18   husband's first wife, and lifeline 178 of husband's second wife. Note that the first

19   marriage begins at point 180 where lifelines 174 and 176 merge, as discussed

20   above. This first marriage ends at point 182 where lifelines 174 and 176 de-merge,

21   also as discussed above. Subsequent to point 182, which represents a divorce,

22   point 184 represents husband's second marriage by the merger of lifelines 174 and

1   178. This second marriage ends when husband dies on a date represented by the

2   right end 186 of his lifeline.

3   Three children of the first marriage stem from vertical line 188 which is placed

4   at the birth date of lifeline 190. Sibling lifelines 192 and 194 then may be

5   represented as shown with their left ends 196, 198, and 200 representing their

6   respective birth dates which are aligned with the appropriate dates on the timeline

7   chart, as discussed above. This is an alternate method of displaying children of a

8   marriage and sibling relationships when, for example, space considerations require

9   such alternate display. This method of displaying children and siblings becomes

10 particularly important in later generations when the family tree becomes more

11 crowded, as it saves space and allows family members to be clustered about their

12 parents and other close relatives to preserve clarity of relationships and the overall

13 display.

14   Note there is a child of the second marriage represented by lifeline 202 which

15 is shown stemming from and wholly inside lifeline 178 (the mother's lifeline) from

16 a point within the area where lifelines 174 and 178 merge. This is another alternate

17 method of displaying children of a marriage when, for example, space

18 considerations require such alternate display. Lifeline 202 could also have been

19 shown stemming from lifeline 174 (the father's lifeline), or anywhere within the

20 area of the parents' lifelines.

21   Note that the open right ends of the various lifelines in Fig. 6A denote that

22 these family members are still alive. Note also that these lifelines are shown in

23 "drop shadow" form 204; that is, a shadow effect has been added on the left and

1   lower sides of the lifelines to produce a three-dimensional effect. In particular,

2   lifelines 190, 192, and 194 are shown in drop shadow form and slightly overlapping

3   each other which adds to the three-dimensional effect. This drop shadow method is

4   used to highlight particular lifelines on the family tree. For example, the user may

5   wish that all family members in a patriarchal lineage be displayed in drop shadow

6   form to highlight that patriarchal lineage. Alternately, the user may wish to use this

7   method to highlight a matriarchal lineage, or perhaps one particular branch of the

8   family on the tree.

9   Referring now to Fig. 6B, an alternative embodiment of lifeline 202 of Fig. 6A

10   will be discussed. Child's lifeline 2020 is shown stemming from lifeline 1780 to

11   the right of the merged area of parents' lifelines 1740 and 1780. Lifeline 2020 may

12   be shown in conjunction with an image 2022 of the child, as a child or as an adult,

13   merged into the lifeline as shown. Image 2022 may begin lifeline 2020 at its left

14   end, corresponding to the person's birth date. An open left end 2024 may be

15   depicted, with the color of the parental lifeline 1780 merging into and blending

16   with the color of lifeline 2020 for a pleasing aesthetic effect.

17   Referring now to Figs. 7A through C, the concept of an "unknown date

18   gradient" shall be discussed. When a person's date of birth is unknown the left

19   edge of their lifeline may be displayed as shown in Fig. 7A, a gradual tapering from

20   white or the background color on the chart into the color of the lifeline, to represent

21   such unknown birth date. When a person is still living an alternative to an open

22   right end on their lifeline is shown in Fig. 7B wherein the color of a lifeline

23   gradually tapers off to white or the background color of the chart; this method has a

26

1   more aesthetic appeal than simply leaving a lifeline open-ended, especially with

2   full color display. When a date of death is unknown, the method of Fig. 7C may be

3   used, wherein the color of a lifeline gradually tapers into darker shades of gray at

4   its right end. Similar methods may be used when, for example, the dates of

5   marriage or separation are unknown, or when any other dates associated with

6   family members are unknown.

7   Having thus described exemplary embodiments of the present invention, it

8   should be noted by those skilled in the art that the above disclosures are exemplary

9   only and that various other alternatives, adaptations, and modifications may be

10   made within the scope of the invention. Accordingly, it is to be understood that the

11   present invention is not limited to the precise construction as shown in the drawings

12   and described hereinabove.